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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,404	09/28/2001	Lalitha Agnihotri	US010447	4387

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EXAMINER

KERN, MATTHEW C

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,404

Applicant(s)

AGNIHOTRI ET AL.

Examiner

Kern Matthew

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/28/01; 09/03/02; 12/09/02</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,2,8-12,16,17, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kazue et al (Japanese Patent Application 10-234,016, Sept 1998).

As per claim 1, Kazue et al. teaches processing (video-signal processor, para [0014]) an audio/video signal and an auxillary information signal comprising text data that is temporally related to the audio/video signal (acquires text from this video signal, para [0026], implies these text signal and video signals are combined, and speech information from the video signal, para [0030], implies an audio), said method comprising the steps of:

- sequentially analyzing portions of said text data in an original language in which said text data is received (decoding means to decode said text and create a character string, para [0016]);
 - sequentially translating said portions of text data (title is translated, where "title" is text, para [0011]) into a target language (language of a request by a user, para [0011]);
- and

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- displaying said portions of translated text data while simultaneously playing the audio/visual signal that is temporally related to each of the portions (with television or video synchronizing with the image at the time of playback, para [0013]).

As per claim 2, Kazue et al. teach:

- receiving said audio/video signal and said auxiliary information signal (video signal with which said text is included, para [0031], and speech information from the video signal, para [0030]);
- separating said audio/video signal into an audio component and a video component (speech information from the video signal, para [0030]); and
- filtering said text data from said auxiliary information signal (acquires text from this video signal, para [0026]).

As per claim 8, Kazue et al. teach a method wherein the text data is closed captions, speech-to-text transcriptions or OCR-ed superimposed text present in said video component (closed caption, para [0048]).

As per claim 9, Kazue et al. teach a synchronized audio/video signal is a radio/television signal, a satellite feed, a digital data stream or signal from a video cassette recorder (digital satellite broadcasting, para [0230]).

As per claim 10, Kazue et al. teach where audio/video signal and said auxiliary information signal are received as an integrated signal (video-signal input, para [0016], implies a single input for audio/video/auxiliary signals) and separating the integrated signal into an audio component, a video component, and an auxiliary information component (closed caption, para [0048]).

As per claim 11, Kazue et al. teach where text data is separated from other auxiliary data (decodes the data of a closed caption (CC), para [0045]. Since closed caption data is found in line 21 of the vertical blanking interval, this implies that Kazue separates the CC from any other data found within the vertical blanking interval, eg, stock market data).

As per claim 12, Kazue et al. teach a method where said audio component, said video component and said auxiliary information component are synchronized (para [0013]).

As per claim 16, Kazue et al. teach an apparatus for processing an audio/video signal and an auxiliary information component comprising text data (closed caption, para [0045]) that is temporally related to the audio/video signal, said apparatus comprising:

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- one or more filters for separating said signals into an audio component , a video component and related text data (acquires text from this video signal, para [0026] implies a filtering process, and speech information from the video signal, para [0030]);
- a microprocessor (para [0045]) for analyzing portions of said text data in an original language in which said text data is received, the microprocessor having software for translating said portions of text data into a target language (character string translated, para [0023]) and formatting the video component and related translated text data for output (YUV4:2:2, para [0073]);
- a display for displaying the portions of the translated text data while simultaneously displaying the video component (with television or video synchronizing with the image at the time of playback, para [0013]); and
- amplifier for playing the audio component of said signal that is temporally related to each of the portions (listen to the translation result, para [0236], implies audio reproduction).

As per claim 17, Kazue et al. teach an apparatus further comprising:

- a receiver for receiving said signals (video-signal input, para [0016]); and
- a filter for extracting text data from said auxiliary information component (decodes the data of a closed caption, para [0045] implies extracting Closed caption data from line 21 from the rest of the auxiliary data in the vertical blanking interval, such as stock quotes).

As per claim 26, Kazue et al. teach a receiver (video-signal input, para [0016]) for processing a synchronized audio/video signal (speech information from the video signal, para [0029]) containing an auxiliary information component (text, para [0026]) that is temporally related to said audio/video signal, said receiver comprising:

- input means for receiving said signal (video-signal input, para [0016]);
- de-multiplexing means for separating said signal into an audio component, a video component and said auxiliary information component (data of the closed caption by which multiplex was carried out, para [0063], along with acquires text from video signal, para [0026], and speech information from the video signal, para [0030]);
- filtering means for extracting text data from said auxiliary information component (decodes the data of the close caption, para [0045], implies the process of obtaining information from line 21 data from all the other or auxiliary data in the vertical blanking interval);
- a microprocessor for analyzing said text data in an original language in which said signal was received (microprocessor, decode the data, para [0045]);
- translating means for translating said text data into a target language (translation section, drawing 37, element 505); and
- output means for outputting the translated text data, the video component and the audio component of said signal to a device including display means (display means to display this image, para [0016]) and audio means (make it output with an audio output device, para [0222]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-5 and 18,19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazue et al. as applied to claims 1 and 16, respectively, above, and further in view of Oon (US patent 6,408,266).

As per claim 3, Kazue et al. do not teach a method wherein the step of sequentially analyzing said portions of text data includes the step of determining where a term present in said portion of text data under analysis is repeated and if the term is determined to be repeated, replacing the term with a different term of similar meaning in all occurrences after a first occurrence of the term. Oon, however, does teach this (synonym, figure 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention to have Kazue's CC translator have a thesaurus so that the translation from source to target language would be less repetitious.

As per claim 4 and 5, Kazue et al. do not teach a method wherein the step of sequentially analyzing said portions of text data include the step of determining whether

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one of a colloquialism and metaphor is present in the portion of text data under consideration and replacing said ambiguity with standard terms representing the intended meaning. Oon, however, teaches this ("the passage is paraphrased with other words and stripped off the underlying idiom (and replaced by substituted words with literal meaning)", col 12, lines 45-48). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention to have the Kazue et al's translator to first recognize metaphors and colloquialisms and replace them so that the viewer in Kazue would be better be able to understand the text being translated, as taught by Oon (col 2, lines 57-58). Further, it would have been obvious to one of ordinary skill in this art to modify Kazue and Oon to obtain the invention as specified in claims 4 or 5.

Finally, Kazue et al. teach a CC translator that operates using a microprocessor (para [0045]).

As per claim 18, Kazue et al. does not teach an apparatus further comprising a memory for storing a plurality of language databases, wherein said language databases include a metaphor interpreter. Oon, however, teaches this (abstract meaning, fig 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention to have the CC translator of Kazue have a metaphor database taught by Oon so that metaphor phrase simplification could happen before translation, thus making the resulting translation easier to understand.

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As per claim 19, Kazue does not teach an apparatus wherein said language databases include a thesaurus. Oon, however, does teach this (synonym, figure 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention to have Kazue's CC translator have a thesaurus so that the translation from source to target language would be less repetitious.

4. Claim 6 and 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazue et al. as applied to claims 1 and 16, respectively, above.

As per claims 6 and 21, Kazue et al. does not teach a method where the step of sequentially analyzing said portions of text data includes the step of determining parts of speech of words in said portion of text data under consideration. However, the examiner takes Official Notice that it is old and well-known in the art for a translation apparatus to have a parser that labels the parts of speech in a sentence. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have Kazue's CC translator have a parser so that having the parts of speech could make the translation process more accurate.

Further Kazue et al. do not display the part of speech with the displayed translated text data in their CC translating apparatus. However, the examiner takes Official Notice that it is old and well-known in the art of foreign language textbooks for authors to parse a sentence and identify to what part of speech each word belongs. Therefore, it would have been obvious to one having ordinary skill in the art at the time

of invention to have Kazue's CC apparatus have a parser that displays parts of speech to the user so that the she can learn the foreign language sentence elements.

5. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazue et al. as applied to claim 1 and 16, respectively, above, and further in view of Tou (US patent 6,002,997).

As per claim 7 and 20, Kazue et al. do not teach a method further comprising the step of analyzing said portions of text data and said portions of translated text data by consulting a cultural and historical knowledge database and displaying the analysis results. Tou, however, teaches this (knowledge base for cultural subtleties, figure 2, element 22). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention to have Kazue's CC translator have the cultural database in Tou's apparatus so that a more polished and accurate translation is produced.

6. Claims 13-15 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazue et al. as applied to claims 1 and 16, respectively, above, and further in view of Chang (US patent 5,543,851).

As per claims 13 and 23, Kazue et al. do not teach a method further comprising the step of setting a personal preference level for determining a level of difficulty in which to perform the step of sequentially translating said portions of text data into the

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target language. Chang, however, teaches this (selects text having an identifier with a value greater than a pre-selected threshold value, where the identifier is a flag that represents the degree of difficulty of a word or phrase, col4, lines 30-39). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention to have Kazue's CC translator have the difficulty rating system of Chang so to that the user could learn the foreign language at a gradual pace.

Also, Kazue's teaches a CC translation system implemented by a microprocessor (para [0045]).

As per claim 14 and 24, Kazue et al. do not teach assigning a threshold setting to a particular word. Chang, however, teaches this (selects text having an identifier with a value greater than a pre-selected threshold value, where the identifier is a flag that represents the degree of difficulty of a word or phrase, col4, lines 30-39). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have Kazue's CC translator display this difficulty level, along with word, on the screen so that the user can see what type of words they are learning (hard, medium, or easy words).

Further, Chang et al. teach a CC translation apparatus where a threshold of the word difficulty is selected by the user (user-selected threshold, claim 6). Kazue and Chang do not teach where the level of difficulty of the words is automatically increased based on a predetermined number of occurrences of similar terms. However, the examiner takes Official Notice that it is old and well-known in the art of general

learning/instruction to manually increase the difficulty level of whatever is being learned after something easier has been repeated for a specific number of times. Therefore, it would have been obvious for one of ordinary skill at the time of invention to automatically increase the difficulty of words encountered based on a predetermined number of occurrences so that the user could focus more attention on learning the words rather than manually hand-selecting and registering new words once the user is ready to tackle more challenging words.

As per claim 15 and 25, Kazue et al. do not teach assigning a threshold setting to a particular word. Chang, however, teaches this (selects text having an identifier with a value greater than a pre-selected threshold value, where the identifier is a flag that represents the degree of difficulty of a word or phrase, col4, lines 30-39). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have Kazue's CC translator display this difficulty level, along with word, on the screen so that the user can see what type of words they are learning (hard, medium, or easy words).

Further, Chang et al. teach a CC translation apparatus where a threshold of the word difficulty is selected by the user (user-selected threshold, claim 6). Kazue and Chang do not teach where the level of difficulty of the words is automatically increased based on a predetermined period of time. However, the examiner takes Official Notice that it is old and well-known in the art of general learning/instruction to manually increase the difficulty level of whatever is being learned after something easier has

been repeated after a predetermined time. Therefore, it would have been obvious for one of ordinary skill at the time of invention to automatically increase the difficulty of words encountered based on a predetermined time so that the user could focus more attention on learning the words rather than manually hand-selecting and registering new words once the user is ready to tackle more challenging words.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

Moser et al (US patent 6,275,789) teach a translator with a parser and the ability to label parts of speech in a sentence.

Basson et al. (US patent application publication 2002/0101537) teaches a CC receiver.

Kahn (US patent application publication 2002/0143531) teach a CC system with a word database.

Barcy (US Patent 6,542,200) teach a TV separating CC data from the audio/video signal.

Brown et al. (US patent application publication 2004/0023191) teach learning through progression.

8. Any inquiry concerning this communication should be directed to Mr. Matthew Kern, whose telephone number is (517) 272-7606 or fax number (703) 872-9306. The examiner can normally be reached Mondays-Fridays from 9:30 am to 6 pm.

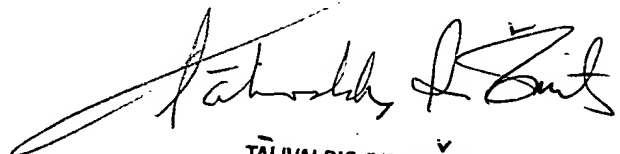
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Talivaldis Smits, can be reached at (517) 272-7628. The facsimile phone number for this Technology Center is (703) 872-9306.

Any inquiry of a general nature of relating to the status of this application should be directed to the Technology Center 2600 receptionist, whose telephone number is (517) 272-2600.

5/8/05

MCK



TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER